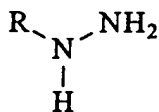
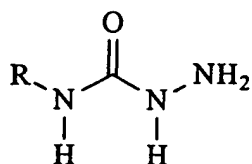


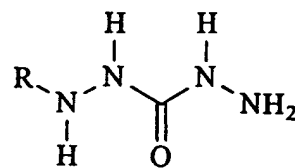
## FIGURE 1



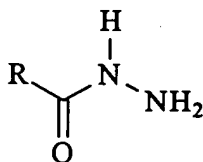
hydrazine



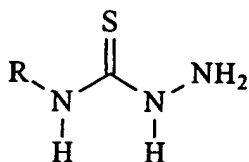
semicarbazide



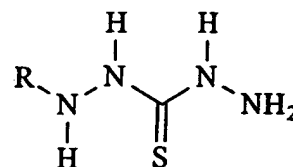
carbazine



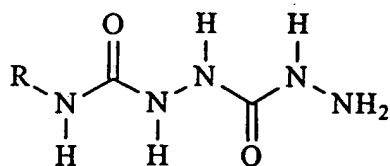
hydrazide



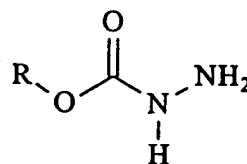
thiosemicarbazide



thiocarbazine

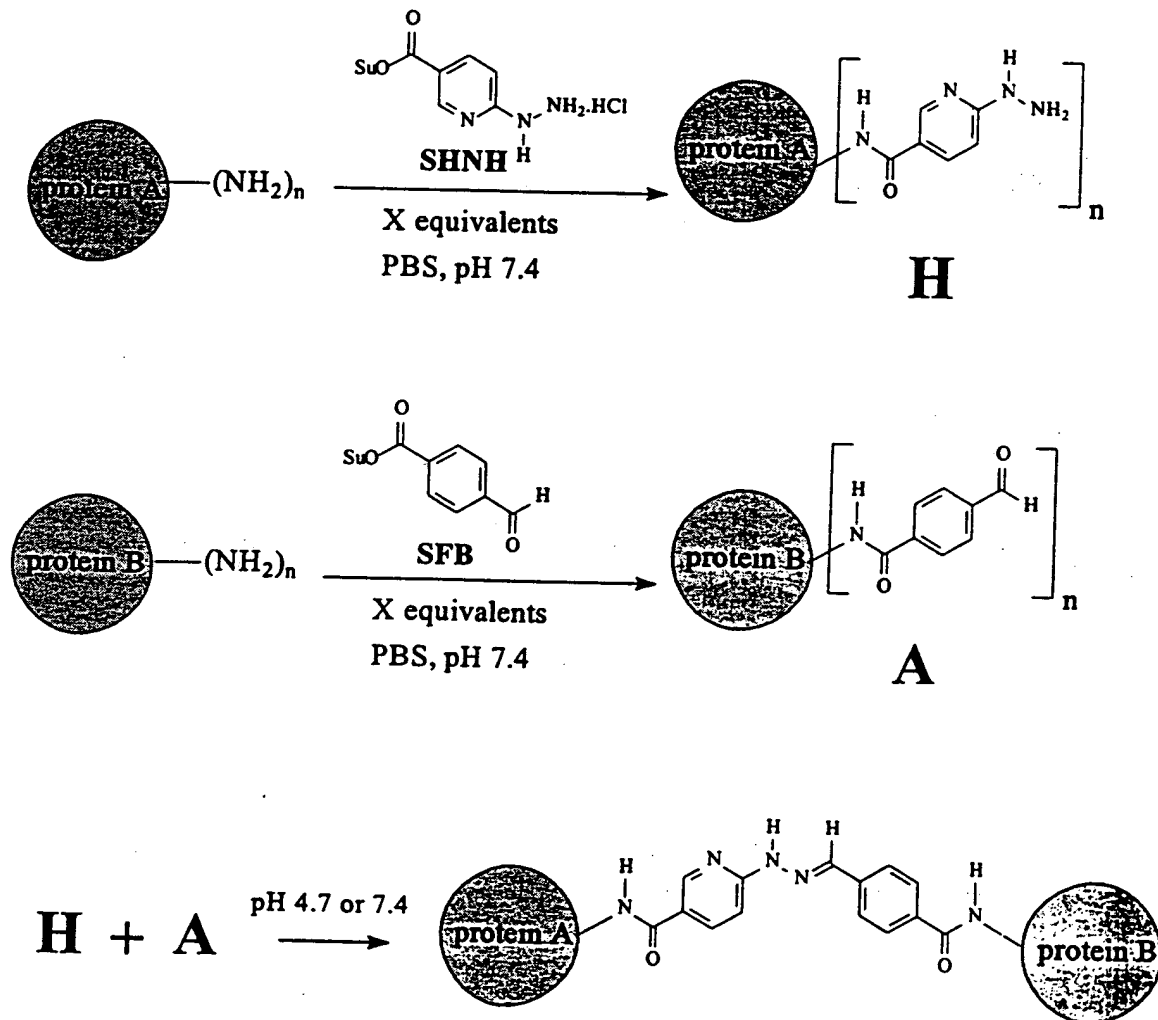


carbonic acid dihydrazine

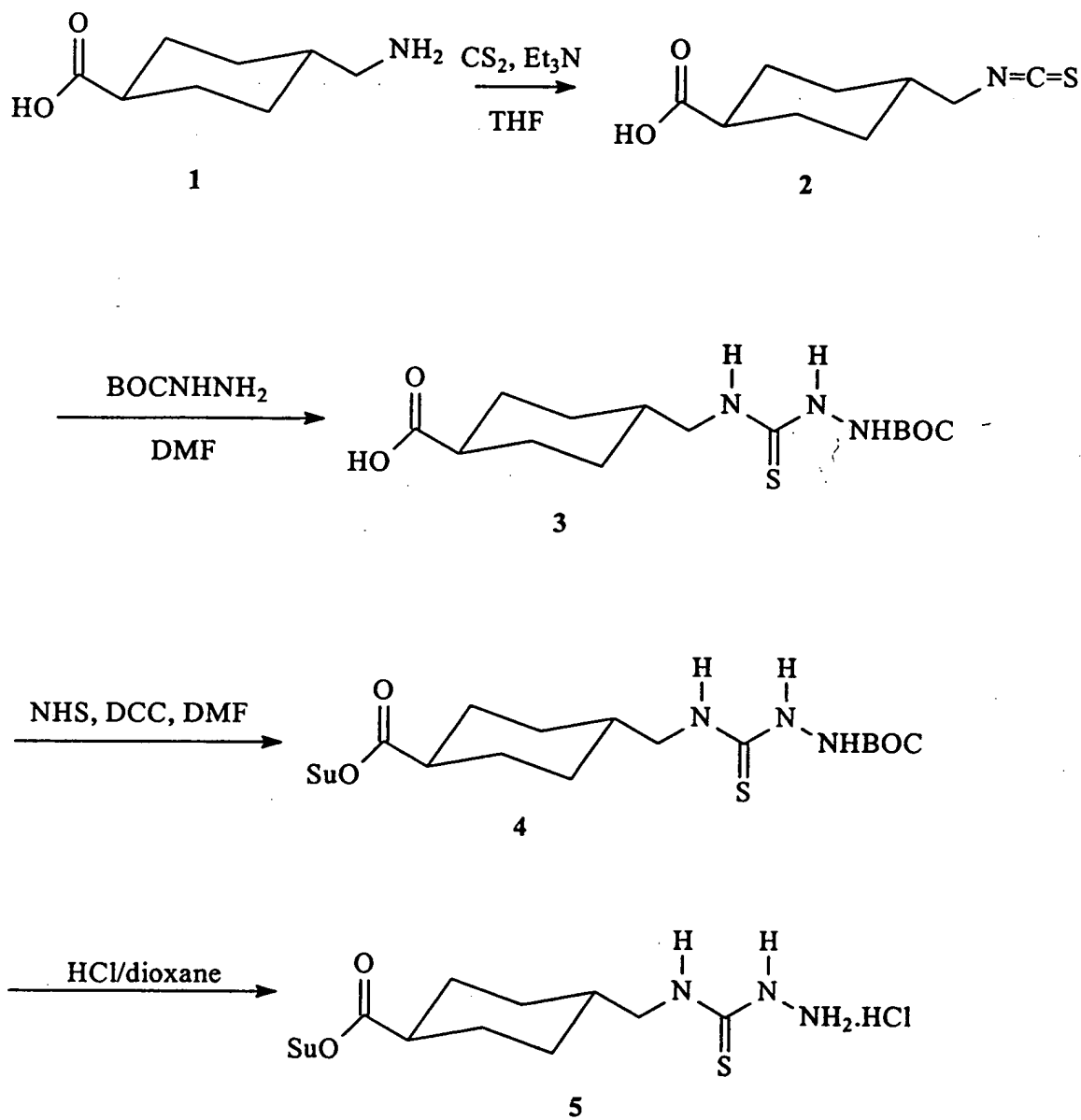


hydrazine carboxylate

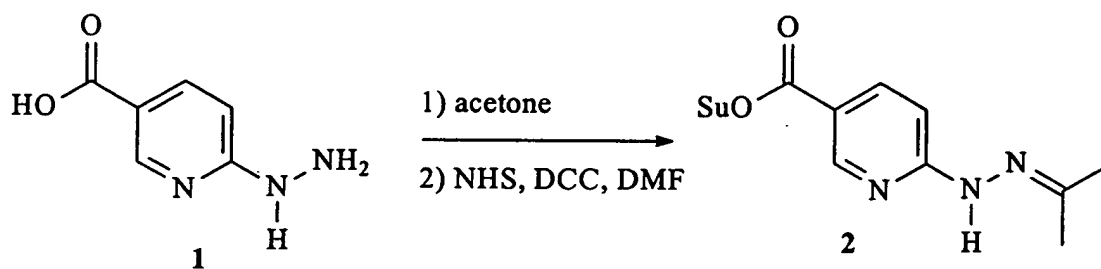
## FIGURE 2



## FIGURE 3

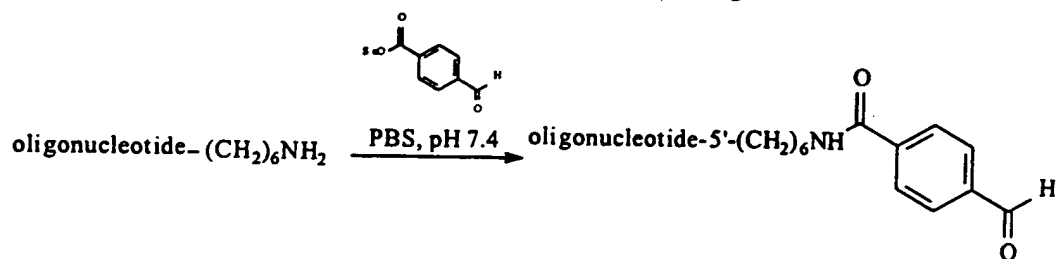


## FIGURE 4

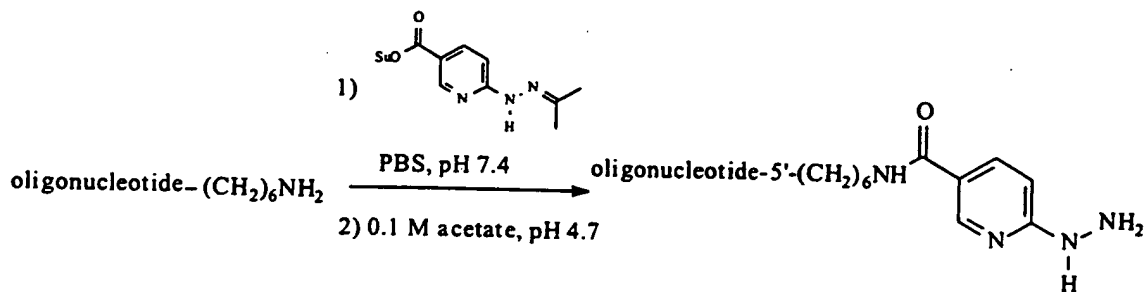


## FIGURE 5

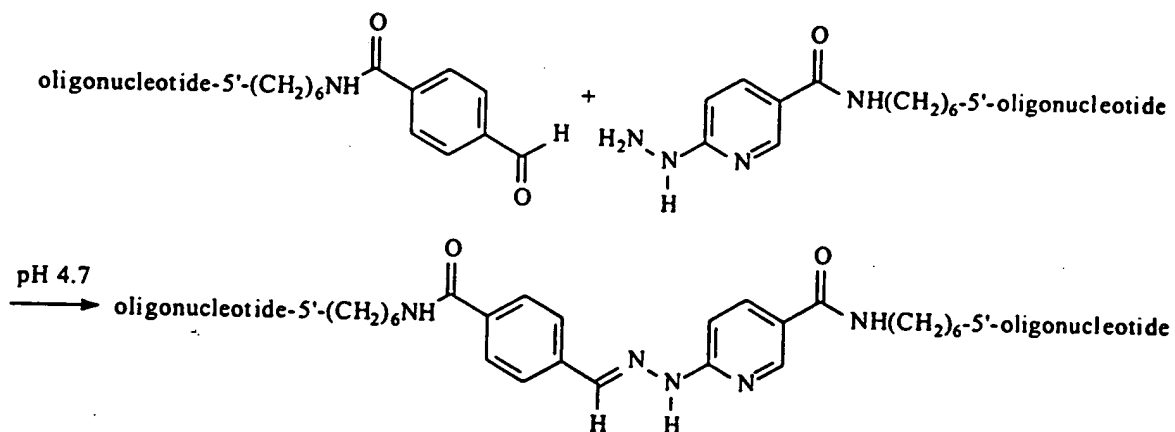
### Preparation of 5'-aromatic aldehyde-modified oligonucleotide:

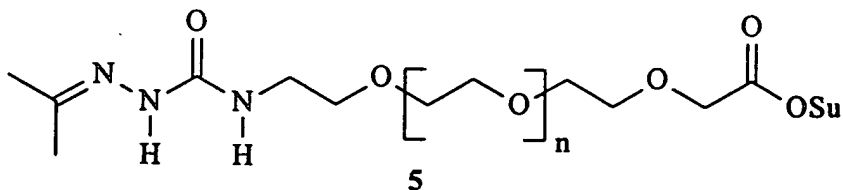
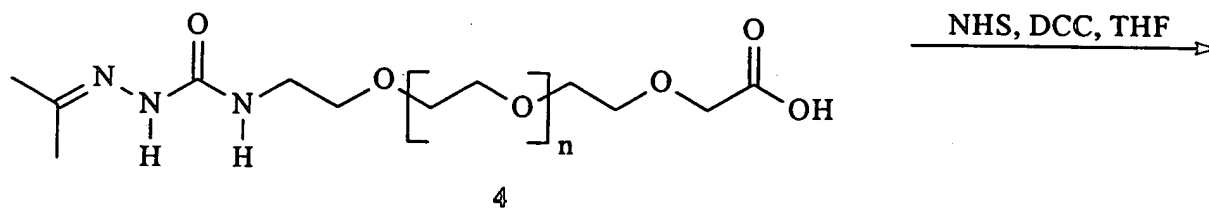
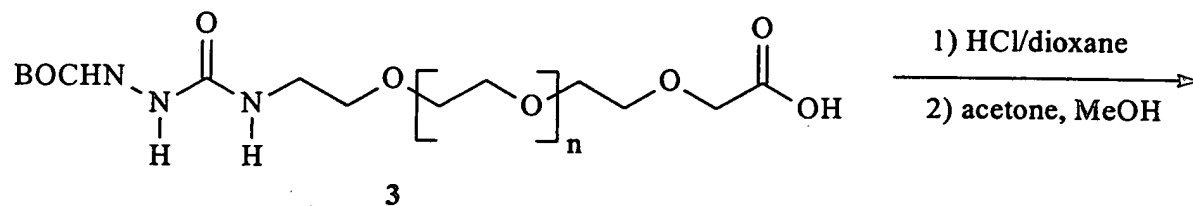
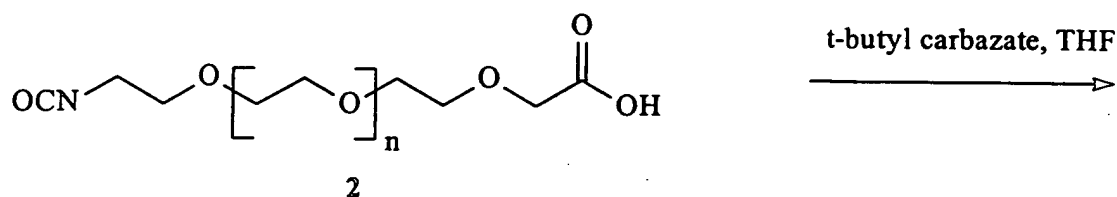
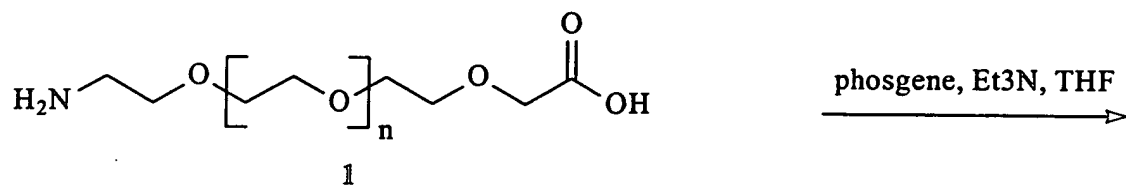


### Preparation of 5'-heteroaromatic hydrazine-modified oligonucleotide:

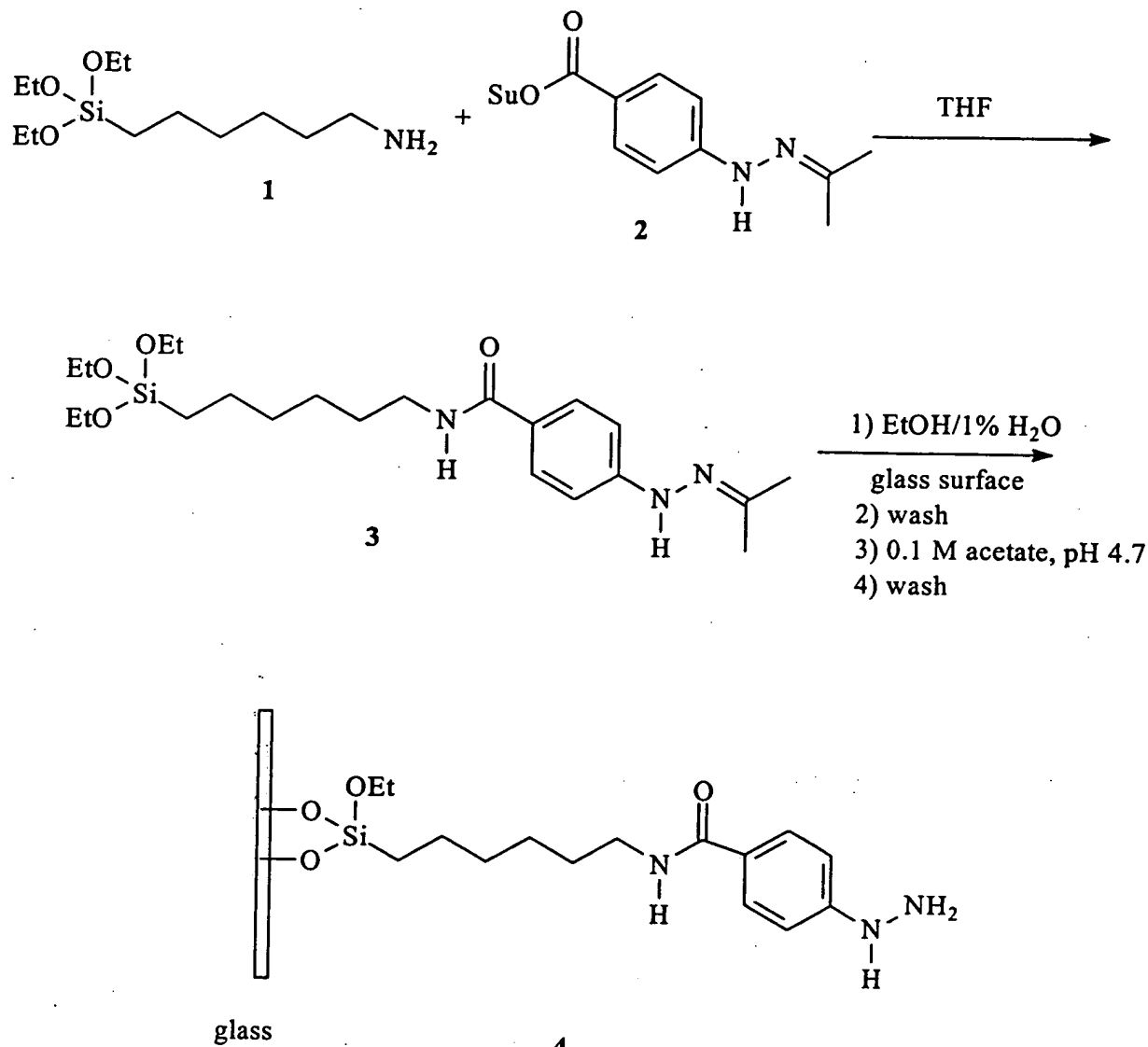


### Conjugation of hydrazino-modified oligonucleotide to aldehyde-modified oligonucleotide

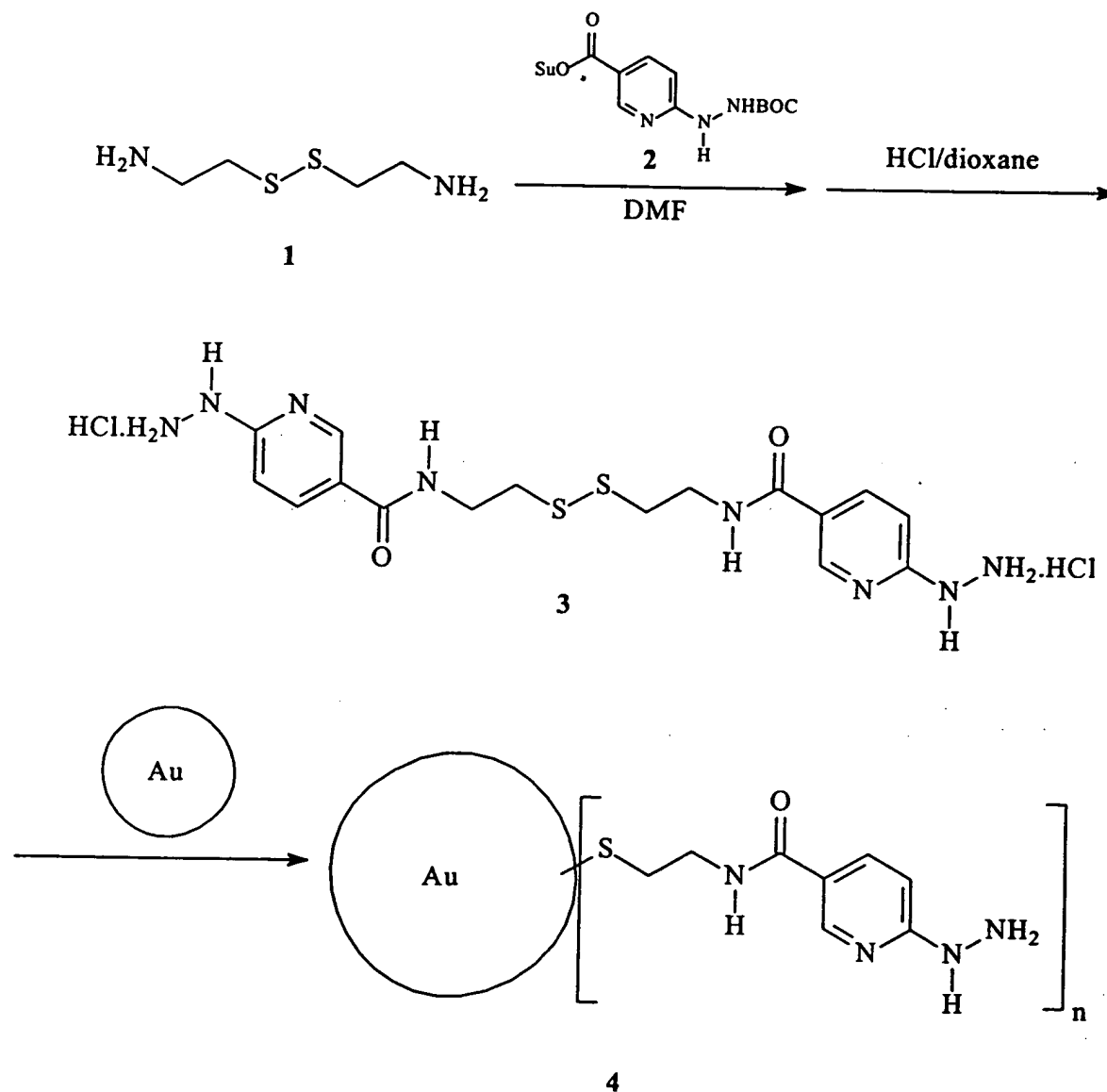




## FIGURE 7



## FIGURE 8





## FIGURE 9

